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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/025,998	12/26/2001	Masayoshi Abe	HYAE: 130	7784

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EXAMINER
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BATTAGLIA, MICHAEL V

ART UNIT	PAPER NUMBER
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2652

DATE MAILED: 06/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/025,998

Applicant(s)

ABE ET AL.

Examiner

Michael V. Battaglia

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 15-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15, 18 and 19 is/are rejected.
- 7) ☒ Claim(s) 16, 17 and 20-22 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 30 January 2002.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

*Claim Objections*

1. Claims 15, 17 and 21 and therefore claims 16, 18-20 and 22 are objected to because of the following informalities:

- a. On line 25 of claim 15, replacing “the A/D control means” with –the A/D conversion means– (see Figs. 1 and 2) is suggested to avoid improper antecedent basis issues. Claim 15 will be interpreted as if the suggested correction has been made in the prior art rejections below.
- b. Claim 17 clearly claims the signal that the A/D conversion means converts into a digital signal. The A/D conversion means is not claimed in claims 15 or 17 as converting an output signal from the signal switching means. The removal of “, in place of an output signal from the signal switching means” on lines 10-11 of claim 17 is suggested because it does not further limit the scope of the claim and adds unnecessary confusion by making claim 17 seem improperly dependent on claim 15 (as if a claim limitation were being removed by the dependent claim 17).
- c. On line 9 of claim 21, replacing “settable” with –set– is suggested. Appropriate correction is required.

*Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 18 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the

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invention. It is unclear how the A/D conversion means that converts analog signals, which are sampled and held by the pair of signal switching means and the pair of the sample hold means, into digital signals, in place of output signals from the pair of sample hold means. In other words, how the A/D conversion means converts a signal that is both sampled and held by the pair of sample hold means and not from the pair of sample hold means is not clear. Deletion of “, in place of output signals from the pair of sample hold means” on lines 9-10 of claim 18 is suggested. Claim 18 will be interpreted as if the suggested correction has been made in the search for prior art.

*Claim Rejections - 35 USC § 103*

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 15 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shio (JP 06-236556) in view of Imamura et al (hereafter Imamura) (US 4,287,802). All Shio citations reference the translation provided by the Japanese Patent Office website.

In regard to claim 15, Shio discloses an optical disk control device comprising a digital signal processing means (Fig. 1, elements 10-15 and 30) and an analog signal processing means (Fig. 1, elements 3-9), said digital signal processing means comprising an A/D conversion command means (Fig. 1, element 10) for converting analog signals, said analog signal processing means comprising: a playback signal detection means (Fig. 1, elements 3-8) for detecting data

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recorded on a disk and a signal switching means (Fig. 1, element 9) for successively selecting plural data signals obtained by the playback signal detection means, according to a conversion command from said A/D conversion command means of the digital signal processing means, and for time-division-multiplexing the selected signals; and said digital signal processing means comprising: an A/D conversion means (Fig. 1, element 11) for analog-to-digital converting a data signal transferred from the analog signal processing means; an arithmetic processing means (Fig. 1, element 16) for performing arithmetic processing on the basis of a digital signal outputted from the A/D control means; and said A/D conversion command means for generating an A/D conversion command (Fig. 1, elements CNT1 and CNT2) under an instruction (Fig. 1, element ER) from the arithmetic processing means (Paragraph 0012) and transferring a command signal (Fig. 1, element CNT1) to the signal switching means. Shio does not disclose that the digital signal processing means comprises a serial transfer means for serially transferring a command signal from the A/D conversion command means, that the analog signal processing means comprises a serial reception means for receiving a signal transferred from the serial transfer means on the basis of a conversion command from said A/D conversion command means of the digital signal processing means, or that the signal switching means selects plural data signals according to a signal received by the serial reception means.

Imamura discloses a serial transfer means (Fig. 1, element 27) for serial-transferring information from one chip to another and a serial reception means (Fig. 1, element 28) for receiving the signal from the serial transfer means. Imamura discloses that through the use of the serial transfer means and serial reception means, the number of pins is reduced (Col. 7, lines 9-20).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add, between the A/D conversion command means and signal switching means of Shio, the serial transfer means and serial reception means of Imamura, the motivation being to reduce the number of pins required for the A/D conversion command means to communicate with the signal switching means. It is noted that when the serial transfer means and serial reception means of Imamura are added between the A/D conversion command means and signal switching means in the optical disk control device of Shio, the digital signal processing means comprises a serial transfer means for serially transferring the command signal of Shio (Fig. 1, element CNT1) from the A/D conversion command means, the analog signal processing means comprises a serial reception means for receiving a signal transferred from the serial transfer means on the basis of the conversion command from said A/D conversion command means of the digital signal processing means, and the signal switching means selects plural data signals according to a signal received by the serial reception means. See Response to Arguments below for further explanation.

In regard to claim 19, Shio discloses that the output signal from the playback signal detection means is transferred to the A/D conversion means, for every conversion command (Page 2, Paragraph 007, lines 1-5). It is noted that when the serial transfer means and serial reception means of Imamura are added between the A/D conversion command means and signal switching means in the optical disk control device of Shio, said signal switching means is operable by a signal (Fig. 1, element CNT1 of Shio) from the serial reception means of the analog signal processing means to select one of plural data signals obtained by the playback signal detection means and for time-division-multiplexing and transferring the selected signals to the A/D conversion means of the

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digital signal processing means and the serial transfer means is controlled on the basis of the conversion command from the A/D conversion command means.

*Allowable Subject Matter*

4. Claims 16, 17 and 20-22 would be allowable if rewritten to overcome the objection(s) set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

In regard to claim 16, none of the references of record alone or in combination suggest or fairly teach the optical disk control device including all the limitations of claim 15 and wherein the device comprises a plurality of said analog signal processing means; and said A/D conversion means for successively selecting output signals from the signal switching means of the plural analog signal processing means on the basis of a command from the A/D conversion command means of the digital signal processing means, and for successively converting the selected output signals into digital signals.

In regard to claim 17, none of the references of record alone or in combination suggest or fairly teach the optical disk control device including all the limitations of claim 15 and wherein said analog signal processing means further comprises a sample hold means for sampling and holding an output signal from the signal switching means, on the basis of a signal transferred from the serial transfer means; and said A/D conversion means is for converting an analog signal which is sampled and held by the sample hold means, into a digital signal.

In regard to claim 20, none of the references of record alone or in combination suggest or fairly teach the optical disk control device including all the limitations of claim 15 and wherein said analog signal processing means further comprises a variable gain amplification means controllable

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by a state setting communication from the serial reception means for setting the internal state of the analog signal processing means; said signal switching means operable by a signal from the serial reception means to select one of plural data signals obtained by the playback signal detection means, for each conversion command; and the gain of the variable gain amplification means is set by the state setting signal, which is transferred for each conversion command by the state setting communication, for setting the internal state of the analog signal processing means.

5. Claim 18 would be allowable if rewritten to overcome the objection(s) and rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. It is noted that claim 18 is dependent on claim 17, which contains allowable subject matter.

#### *Response to Arguments*

6. Applicant's arguments filed February 9, 2005 with respect to the rejection of claim 15 over Shio in view of Imamura have been fully considered but they are not persuasive.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., changes the order of selection according to a signal outputted from the serial reception means) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Claim 15 instead claims that the signal switching means successively selects plural data signals obtained by the playback signal detection means. The signal switching means of Shio (Fig. 1, element 9) is a multiplexor that successively selects whatever data signals are selected by the CNT1 command signal from the A/D conversion command means (Fig.



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1, element 10). When the serial transfer means and serial reception means of Imamura are added between the A/D conversion command means and signal switching means in the optical disk control device of Shio, the CNT1 is from the serial reception means.

Applicant further argues that Shio does not disclose performing a series of operations on the basis of a conversion command generated from the A/D conversion command means under an instruction of the DSP. However, as claimed, the arithmetic processing means of Shio (Fig. 1, element 16) performs arithmetic processing on the basis of a digital signal outputted from the A/D control means. The A/D conversion command means for generating an A/D conversion command (Fig. 1, elements CNT1 and CNT2) under an instruction (Fig. 1, element ER) from the arithmetic processing means (Paragraph 0012). The A/D conversion command commands A/D conversion of the A/D conversion means (Fig. 1, element 11-15) by providing timing to the registers (Fig. 1, elements 12-15). The A/D conversion command is generated under an instruction from the arithmetic processing means because the ER signal suspends control when there is a servo error (Paragraph 0012).

Applicant further argues that the device of Shio modified by Imanura would not have the Applicant's structure and could not perform Applicant's processing. However, the device of Shio modified by Imanura has the claimed structure and performs the claimed processing. As noted before, although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims.

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*Conclusion*

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael V. Battaglia whose telephone number is (571) 272-7568. The examiner can normally be reached on 5-4/9 Plan with 1st Friday off.

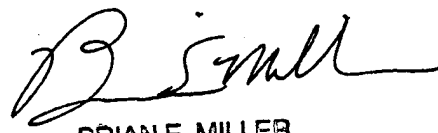
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Michael Battaglia



BRIAN E. MILLER  
PRIMARY EXAMINER